#### Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application. Listing of claims:

- 1.-9. (Canceled).
- 10. (Previously Amended) A compound of formula (I)

$$\mathbb{R}^{2} \underbrace{X^{6}}_{X^{4}} \underbrace{X^{1}}_{X^{3}} \underbrace{X^{2}}_{\mathbb{R}^{1}}$$

or\_enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts and solvates thereof wherein:

X1 is C=O;

X<sup>2</sup> is CR<sup>3</sup>;

X<sup>3</sup> is-NH-;

X4 is CR4;

X<sup>5</sup> is CR<sup>5</sup>;

X6 is CR6;

R<sup>1</sup> is alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl, or heteroaryl<del>, provided that when R<sup>1</sup> is alkyl, substituted alkyl or alkenyl, R<sup>2</sup> is not cyuno;</del>

R<sup>2</sup> is oyano or a substituted or unsubstituted monocyclic heteroaryl group, provided that when R<sup>2</sup> is ovano R<sup>2</sup> is not-alkyl, substituted alkyl or alkenyl:

R<sup>3</sup> is hydrogen, hydroxy, halogen, cyano, CO<sub>2</sub>R<sup>7</sup>, NR<sup>8</sup>R<sup>9</sup>, alkyl, substituted alkyl, alkenyl, substituted alkynyl, substituted alkynyl, substituted alkynyl, substituted aryl, heterocycloalkyl or heteroaryl;

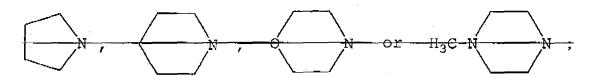
R<sup>4</sup>, R<sup>5</sup>, and R<sup>6</sup> are independently selected from the group consisting of hydrogen, halogen, nitro, cyano,

O-R<sup>7</sup>, NR<sup>8</sup>R<sup>9</sup>, SR<sup>7</sup>, S(O)R<sup>7</sup>, SO<sub>2</sub>R<sup>7</sup>, SO<sub>3</sub>R<sup>7</sup>, SO<sub>2</sub>NR<sup>8</sup>R<sup>9</sup>, CO<sub>2</sub>R<sup>7</sup>, C(O)NR<sup>8</sup>R<sup>9</sup>, C(O)alkyl, C(O)substituted alkyl, alkyl, substituted alkyl, alkenyl, substituted alkynyl and substituted alkynyl;

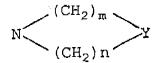
R<sup>7</sup>, R<sup>10</sup>, and R<sup>11</sup>, are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, alkenyl, alkynyl, cycloalkyl, substituted cycloalkyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O) substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl and heteroaryl; and

R<sup>8</sup> and R<sup>9</sup> are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, alkenyl, alkynyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O)substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl, and heteroaryl or R<sup>8</sup> and R<sup>9</sup> taken together with the nitrogen atom to which they are attached complete a heterocycloalkyl or heteroaryl ring[;] with the following proviso[s]:

(a) when R<sup>4</sup> is substituted or meta unsubstituted phenyl, R<sup>3</sup> is H, R<sup>4</sup> is H, R<sup>5</sup> is H and R<sup>6</sup> is H, then R<sup>2</sup> is not PhCONH.



(b) when R<sup>1</sup> is phenyl substituted with H, F, Cl, Br, I, CH<sub>3</sub>, CF<sub>3</sub>, OH, OCH<sub>4</sub>, OCF<sub>3</sub>, OCH<sub>2</sub>CH<sub>2</sub>, NH<sub>2</sub>, NHCH<sub>3</sub>, N(CH<sub>3</sub>)<sub>2</sub>, O-benzyl, -C(=O) R<sub>0</sub>, or -C(=O) OR<sub>0</sub> and R<sub>0</sub> is a lower alkyl group, R<sup>3</sup> is H, R<sup>4</sup> is H, R<sup>5</sup> is H and R<sup>6</sup> is H, then R<sup>2</sup> is not



where Y is CH<sub>2</sub>, O or S, in and n are each greater than 1, and the sum of m and n is between 3 and 6; and

- (c) when R<sup>2</sup> is heteroaryl, at least one of the heteroatoms must be O.
- 11. (Canceled)
- 12. (Previously Amended) A compound of Claim 10 of formula (III)

or\_enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts and solvates <u>thereof</u> wherein:

R<sup>2</sup> is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl, or substituted 5-oxazolyl;

R<sup>3</sup> is hydrogen, hydroxy, NR<sup>8</sup>R<sup>9</sup>, alkyl of 1 to 4 carbons, alkenyl of 2 to 4 carbons, alkynyl of 2 to 4 carbons, substituted alkyl of 1 to 4 carbons, phenyl, substituted phenyl, cycloalkyl of 5 to 7 carbons, substituted cycloalkyl of 5 to 7 carbons, monocyclic heterocycloalkyl and monocyclic heterocycloalkyl;

R<sup>4</sup> is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, CF<sub>3</sub>, OCF<sub>3</sub>, OCH<sub>3</sub>, SCH<sub>3</sub>, S(O)CH<sub>3</sub>, or S(O)<sub>2</sub>CH<sub>3</sub>;

R<sup>5</sup> is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, vinyl, CF<sub>3</sub>, CF<sub>2</sub>CF<sub>3</sub>, CH=CF<sub>2</sub>, OCH<sub>3</sub>, OCF<sub>3</sub>, OCHF<sub>2</sub>, SCH<sub>3</sub>, S(O)CH<sub>3</sub>, or S(O)<sub>2</sub>CH<sub>3</sub>; and

R<sup>6</sup> is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, CF<sub>3</sub>, OCH<sub>3</sub>, OCF<sub>3</sub>, SCH<sub>3</sub>, S(O)CH<sub>3</sub>, and S(O)<sub>2</sub>CH<sub>3</sub>.

13. (Previously Amended) A compound of Claim 12 or enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts and solvates <u>thereof</u> wherein:

R<sup>2</sup> is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl, or substituted 5-oxazolyl or heteroaryl; R<sup>3</sup> is hydrogen, hydroxy, halogen, methyl or NR<sup>8</sup>R<sup>9</sup>:

R<sup>4</sup> is hydrogen;

 ${
m R}^5$  is halogen, methyl, ethyl, substituted alkenyl, alkyne, OMe or OCF3; and  ${
m R}^6$  is hydrogen.

14. (Previously Amended) A compound of Claim 13 or enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts and solvates thereof wherein:

R<sup>2</sup> is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl or substituted 5-oxazolyl;

R<sup>3</sup> is hydrogen, hydroxy, halogen or methyl;

R<sup>4</sup> is hydrogen;

R<sup>5</sup> is halogen, methyl or OMe; and

 $\mathbb{R}^6$  is hydrogen.

15. (Previously Amended) A compound of Claim 10 of formula (V)

(V)

or\_enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts and solvates thereof selected from:

a compound of formula (V) wherein:

 $R^1$  is

## US application Serial No. 09/840,503 Attorney Docket No. QA231

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

R<sup>1</sup> is CH<sub>3</sub> and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^{I}$  is

and R3 is CH3;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R1 is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

## US application Serial No. 09/840,503 Attorney Docket No. QA231

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^{I}$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R3 is hydrogen;

## US application Serial No. 09/840,503 Attorney Docket No. QA231

 $R^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^{l}$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R1 is

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R<sup>1</sup> is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R1 is

and R3 is hydrogen;

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

## US application Serial No. 09/840,503 Attorney Docket No. QA231

1:30PM

R1 is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^{I}$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^{1}$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

1:30PM

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R<sup>1</sup> is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and  $\mathbb{R}^3$  is hydrogen;

a compound of formula (V) wherein:

R1 is

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a compound of formula (V) wherein:

R1 is

and R3 is hydrogen;

a compound of formula (V) wherein:

R<sup>1</sup> is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^{I}$  is

and R<sup>3</sup> is hydrogen;

## US application Serial No. 09/840,503 Attorney Docket No. QA231

 $R^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

R1 is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

### US application Serial No. 09/840,503 Attorney Docket No. QA231

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbf{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

## US application Serial No. 09/840,503 Attorney Docket No. QA231

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^{1}$  is

a compound of formula (V) wherein:

R<sup>1</sup> is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R<sup>1</sup> is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and  $R^3$  is hydrogen;

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R<sup>1</sup> is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R<sup>1</sup> is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

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a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R1 is

and R3 is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

## US application Serial No. 09/840,503 Attorney Docket No. QA231

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

R<sup>1</sup> is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

## US application Serial No. 09/840,503 Attorney Docket No. QA231

a compound of formula (V) wherein:

R1 is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen;

a compound of formula (V) wherein:

 $R^1$  is

and R<sup>3</sup> is hydrogen;

and a compound of formula (V) wherein:

 $\mathbb{R}^1$  is

and R<sup>3</sup> is hydrogen.

16. (Previously Amended) A compound of Claim 10 or enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts and solvates thereof selected from:

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and

- 17. (Original) A pharmaceutical composition comprising a compound of Claim 10 and a pharmaceutically acceptable carrier.
- 18. (Canceled).
- 19. (Original)A pharmaceutical composition comprising a compound of Claim 12 and a pharmaceutically acceptable carrier.
- 20. (Original)A pharmaceutical composition comprising a compound of Claim 13 and a pharmaceutically acceptable carrier.
- 21. (Original)A pharmaceutical composition comprising a compound of Claim 14 and a pharmaceutically acceptable carrier.
- 22. (Original)A pharmaceutical composition comprising a compound of Claim 15 and a pharmaceutically acceptable carrier.
- 23. (Original)A pharmaceutical composition comprising a compound Claim 16 and a pharmaceutically acceptable carrier.
- 24. -29. (Canceled)

- 30. (Previously Added and Amended) A method of treating inosine monophosphate dehydrogenase associated disorders selected from inflammatory bowel disease, hepatitis B, hepatitis C, herpes simplex I, herpes simplex II, rheumatoid arthritis, asthma, and transplant rejection comprising: administering to a subject a therapeutically effective amount of a compound of claim 10.
- 31. (Canceled)
- 32. (Previously Added and Amended) A method of treating inosine monophosphate dehydrogenase associated disorders selected from inflammatory bowel disease, hepatitis B, hepatitis C, herpes simplex I, herpes simplex II, rheumatoid arthritis, asthma, and transplant rejection comprising: administering to a subject a therapeutically effective amount of a compound of claim 12.
- 33. (Previously Added and Amended) A method of treating inosine monophosphate dehydrogenase associated disorders selected from inflammatory bowel disease, hepatitis B, hepatitis C, herpes simplex I, herpes simplex II, rheumatoid arthritis, asthma, and transplant rejection comprising: administering to a subject a therapeutically effective amount of a compound of claim 13.
- 34. (Previously Added and Amended) A method of treating inosine monophosphate dehydrogenase associated disorders selected from inflammatory bowel disease, hepatitis B, hepatitis C, herpes simplex I, herpes simplex II, rheumatoid arthritis, asthma, and transplant rejection comprising: administering to a subject a therapeutically effective amount of a compound of a phosphodiesterase Type 4 inhibitor and a compound of claim 10.
- 35. (Previously Added) A method for the treatment or prevention of allograft rejection comprising: administering a therapeutically effective amount of a phosphodiesterase Type 4 inhibitor and a compound of claim 10.

- 36. (canceled).
- 37. (Previously Added) A method of claim 34 wherein: the phosphodiesterase Type 4 inhibitor is [4-[3-(cyclopentyloxy)-4-methoxyphenyl]-2-pyrrolidinone].
- 38. (Previously Added and Amended) A method of treating inosine monophosphate dehydrogenese associated disorders selected from inflammatory bowel disease, hepatitis B, hepatitis C, herpes simplex I, herpes simplex II, rheumatoid arthritis, asthma, and transplant rejection comprising: administering to a subject a therapeutically effective amount of a compound of Claim 17.
- 39. (Previously Added and Amended) A method of treating inosine monophosphate dehydrogenase associated disorders selected from inflammatory bowel disease, hepatitis B, hepatitis C, herpes simplex I, herpes simplex II, rheumatoid arthritis, asthma, and transplant rejection comprising: administering to a subject a therapeutically effective amount of a compound of Claim 17 and another agent known to be useful in treatment of such disorders.
- 40. (Previously Added and Amended) A method of treating inosine monophosphate dehydrogenase associated disorders selected from inflammatory bowel disease, hepatitis B, hepatitis C, herpes simplex I, herpes simplex II, rheumatoid arthritis, asthma, and transplant rejection comprising: administering to a subject a therapeutically effective amount of a compound of Claim 17 and a phosphodiesterase Type 4 inhibitor.
- 41. (Previously Added) A method for the treatment or prevention of allograft rejection comprising: administering a therapeutically effective amount of the pharmaceutical composition of Claim 17 and a phosphodiesterase Type 4 inhibitor.